WHAT IS CLAIMED IS:

1. A photothermographic material comprising, on one surface of a substrate, photosensitive silver halide grains, a non-photosensitive organic silver salt, a reducing agent and a binder, wherein said photosensitive silver halide grains include iridium and a metal of groups 3 to 10 of the periodic table other than iridium, and 90 % or more of a total iridium amount within the grain is contained in a core of 50 % or less of the grain.

2. A photothermographic material according to claim 1, wherein said metal of groups 3 to 10 of the periodic table other than iridium is selected from the group consisting of ruthenium, iron, osmium, copper, cobalt, platinum, zinc and rhodium.

3. A photothermographic material according to claim 1, wherein said metal of groups 3 to 10 of the periodic table other than iridium is iron or ruthenium.

4. A photothermographic material according to claim 1, wherein said photosensitive silver halide grains have an average particle size of 10 to 50 nm.

5. A photothermographic material according to claim 1, wherein an amount of iridium in the silver halide grains is from 1×10^{-8} to 1×10^{-2}

mol per 1 mol of silver halide.

6. A photothermographic material according to claim 1, wherein an amount of the metal of groups 3 to 10 of the periodic table other than iridium in the silver halide grains is from 1×10^{-8} to 1×10^{-2} mol per 1 mole of silver halide.

7. A photothermographic material according to claim 1, wherein the photosensitive silver halide grains are chemically sensitized by one of a sulfur sensitizing method, a selenium sensitizing method, and a tellurium sensitizing method.

8. A photothermographic material according to claim 1, wherein the photosensitive silver halide grains are gold sensitized.

9. A photothermographic material according to claim 1, wherein the photosensitive silver halide grains are reduction sensitized.

10. A photothermographic material according to claim 1, further comprising a fragmentable electron donating sensitizer (FED sensitizer).

11. A photothermographic material according to claim 1, wherein said photosensitive silver halide grains have a core/shell structure.

12. A photothermographic material according to claim 1, wherein

the photosensitive silver halide grains have a core/shell structure of two to five layers.

13. A method of producing photosensitive silver halide grains to be employed in a photothermographic material including, on a same surface of a substrate, photosensitive silver halide grains, a non-photosensitive organic silver salt, a reducing agent and a binder, wherein the photosensitive silver halide grains include iridium and a metal of groups 3 to 10 of the periodic table other than iridium, and 90 % or more of a total iridium amount is added by the time that an added amount of silver nitrate reaches 30 % of a total amount of silver nitrate.

14. A method of producing photosensitive silver halide grains according to claim 13, wherein said metal of groups 3 to 10 of the periodic table other than iridium is selected from the group consisting of ruthenium, iron, osmium, and rhodium.

15. A method of producing photosensitive silver halide grains according to claim 13, wherein said photosensitive silver halide grains have an average particle size of 10 to 50 nm.

16. A method of producing photosensitive silver halide grains according to claim 13, wherein a compound of the iridium and a solution thereof are directly added to a reaction vessel for silver halide.

17. A method of producing photosensitive silver halide grains according to claim 13, wherein a compound of the metal other than iridium and a solution thereof are directly added to a reaction vessel for silver halide.

18. A method for producing photosensitive silver halide grains according to claim 13, wherein the photosensitive silver halide grains have a core/shell structure.

19. A method for producing photosensitive silver halide grains according to claim 18, wherein a core portion and a shell portion of the photosensitive silver halide grain are prepared from separate halogen solutions, and a compound of the iridium is added in advance to a halogen solution to be used for forming the core portion.

20. A method for producing photosensitive silver halide grains according to claim 18, wherein a core portion and a shell portion of the photosensitive silver halide grain are prepared from separate halogen solutions, and the metal of groups 3 to 10 of the periodic table other than iridium is added in advance to a halogen solution to be used for forming the shell portion.